SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : F176-K21 hebro®lub 150 MF

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : High speed cooling lubricant for metalworking

1.3 Details of the supplier of the safety data sheet

Company : hebro chemie- ZN der Rockwood Specialties Group GmbH
Rostocker Str. 40
41199 Mönchengladbach
Contact person : Zentrale hebro chemie
Telephone : +49 (0) 2166 6009-0
Telefax : +49 (0) 2166 6009-99

Contact person product safety Abteilung Produktsicherheit
Telephone : +49(0)2166 6009-311
E-mail address : msds.de@hebro-chemie.de

1.4 Emergency telephone number

: Giftinformationszentrum Erfurt:
+49 (0) 361 730 730

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

Additional Labelling

EUH210 Safety data sheet available on request.
EUH208 Contains 1,2-Benzisothiazol-3(2H)-one. May produce an allergic reaction.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
The information required is contained in this Material Safety Data Sheet.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Preparation based on water-miscible components of alkanolamines, polyols and preservative agents

Hazardous components

Chemical name	CAS-No. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
N-Methyldiethanolamine	105-59-9 203-312-7 01-2119488970-24	Eye Irrit. 2; H319	>= 3 - < 10
Boric acid	10043-35-3 233-139-2 01-2119486683-25	Repr. 1B; H360FD	>= 3 - < 5.5
1,2-Benzisothiazol-3(2H)-one	2634-33-5 220-120-9 01-2120761540-60	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor Acute aquatic toxicity:1 M-Factor Chronic aquatic toxicity:1	>= 0.0025 - < 0.025

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : No special precautions required.
Call a physician if symptoms occur.

If inhaled : Provide fresh air.
If symptoms persist, call a physician.

In case of skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
If symptoms persist, call a physician.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical advice.

If swallowed : Call a physician immediately.
Keep at rest.

Do NOT induce vomiting.
Aspiration hazard.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

Risks : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO2)
Dry powder
Water mist

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Combustion may cause:
Carbon dioxide (CO2)
Carbon monoxide
Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Use water spray to cool unopened containers.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Avoid contact with skin, eyes and clothing.
Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions : Do not let product enter drains.
Inform the relevant authorities if it enters sewers, aquatic environment or soil.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Contain spillage, soak up with non-combustible absorbent

material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See chapter
8
and
13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
Provide sufficient air exchange and/or exhaust in work rooms.
Do not breathe vapours or spray mist.
Smoking, eating and drinking should be prohibited in the application area.
For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Follow the water regulations. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in original container.

Further information on storage conditions : Keep only in the original container in a cool, well-ventilated place. Keep away from heat. Keep at temperatures between 5°C and 40°C.

Advice on common storage : Incompatible with oxidizing agents.

7.3 Specific end use(s)

Specific use(s) : High speed cooling lubricant for metalworking

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
N-Methyldiethanolamine	Workers	Inhalation	Long-term systemic effects	26 mg/m3
	Workers	Skin contact	Long-term systemic effects	19 mg/kg bw/day
Boric acid	Workers	Inhalation	Long-term systemic effects	8.3 mg/m3
	Workers	Skin contact	Long-term systemic effects	392 mg/kg bw/day
	Workers	Ingestion	Acute systemic ef-	0.98 mg/kg

			fects	bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
N-Methyldiethanolamine	Fresh water	0.1 mg/l
	Marine water	0.0125 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.89 mg/kg
	Marine sediment	0.111 mg/kg
	Soil	0.119 mg/kg
Boric acid	Fresh water	1.35 mg/l
	Marine water	1.35 mg/l
	Sewage treatment plant	1.75 mg/l
	Fresh water sediment	1.8 mg/kg
	Marine sediment	1.8 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection

Material : Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

Remarks : The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed.

Skin and body protection : Long sleeved clothing

Respiratory protection : not required under normal use
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Do not breathe gas/fumes/vapour/spray.

Protective measures : Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust).
Do not breathe gas/fumes/vapour/spray.
Follow the skin protection plan.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : liquid

Colour : yellow

Odour : mild

Odour Threshold : No data available

pH	:	9.1 (23 °C) Concentration: 20 g/l Method: DIN 51369 9.7 (23 °C) Method: DIN 51369 (undiluted)
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	> 100 °C Method: DIN 51751
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.08 g/cm³ (20 °C) Method: DIN 51757
Solubility(ies) Water solubility	:	1,000 g/l completely soluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	13 mm²/s (20 °C) Method: DIN 51562
Flow time	:	No data available
Explosive properties	:	no explosion risk
Oxidizing properties	:	No data available

9.2 Other information

Other physico-chemical properties: This information is not available/not determined.

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

The product is chemically stable.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : Strong acids and oxidizing agents

10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.
In case of fire hazardous decomposition products may be produced such as:
Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product:

Based on available data, the classification criteria are not met.

Acute toxicity

Components:

N-Methyldiethanolamine:

Acute oral toxicity	:	LD50 (Rat): 4,680 mg/kg
Acute dermal toxicity	:	LD50 (Rabbit): 5,990 mg/kg

Boric acid:

Acute oral toxicity	:	LD50 (Rat): 3,500 - 4,100 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 2.120 mg/l Exposure time: 4 h
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg

1,2-Benzisothiazol-3(2H)-one:

Acute oral toxicity	:	LD50 (Rat): 1,193 mg/kg
Acute dermal toxicity	:	LD50 (Rat): 4,115 mg/kg

Skin corrosion/irritation

Product:

Remarks: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.
May irritate skin.

Serious eye damage/eye irritation

Product:

Remarks: The liquid splashed in the eyes may cause irritation and reversible damage.

Respiratory or skin sensitisation

Product:

Remarks: This information is not available.

Germ cell mutagenicity

Product:

Based on available data, the classification criteria are not met.

Carcinogenicity

Product:

Carcinogenicity - Assessment	:	Not classifiable as a human carcinogen.

Reproductive toxicity

Product:

Based on available data, the classification criteria are not met.

STOT - single exposure

Product:

Based on available data, the classification criteria are not met.

STOT - repeated exposure

Product:

Based on available data, the classification criteria are not met.

Aspiration toxicity

Product:

Based on available data, the classification criteria are not met.

Further information

Product:

Remarks: Health injuries are not known or expected under normal use.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Ecotoxicology studies for the product are not available.

Components:

N-Methyldiethanolamine:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 1,466 mg/l Exposure time: 96 h Test Type: static test Method: DIN 38412
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 233 mg/l Exposure time: 48 h Test Type: static test NOEC (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 96 h Test Type: static test
Toxicity to algae	:	EC50 (Scenedesmus subspicatus): 176 mg/l Exposure time: 72 h Method: DIN 38412
Toxicity to microorganisms	:	EC20 (activated sludge): > 1,000 mg/l Exposure time: 30 min Method: 88/302/EC

Boric acid:

Toxicity to fish	:	LC50 (Pimephales promelas (Fathead minnow)): 79.7 mg/l Exposure time: 96 h NOEC (Brachydanio rerio (Zebra danio)): 1.8 mg/l Exposure time: 34 d
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 133 mg/l Exposure time: 48 h NOEC (Daphnia magna (Water flea)): 6 - 13 mg/l Exposure time: 21 d
Toxicity to algae	:	NOEC (Scenedesmus capricornutum (fresh water algae)): 17.5 mg/l Exposure time: 74.5 h Test Type: Growth inhibition EC50 : 40 mg/l

Exposure time: 72 h

Toxicity to microorganisms : NOEC (Bacteria): 17.5 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition

1,2-Benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 3.4 mg/l
Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 1.3 - 1.6 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 2.94 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Algae): 0.15 mg/l
Exposure time: 72 h

M-Factor (Short-term (acute) aquatic hazard) : 1

Toxicity to microorganisms : EC20 (activated sludge): 3.3 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

M-Factor (Long-term (chronic) aquatic hazard) : 1

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Components:

1,2-Benzisothiazol-3(2H)-one:

Biodegradability : Test Type: Primary biodegradation
Biodegradation: > 90 %
Method: OECD Test Guideline 303 A
Remarks: rapidly biodegradable

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

N-Methyldiethanolamine:

Partition coefficient: n-octanol/water : log Pow: -1.08
Method: OECD Test Guideline 107

12.4 Mobility in soil

Product:

Mobility	:	Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment	:	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

12.6 Other adverse effects

Product:

Additional ecological information	:	Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of in accordance with local regulations. Do not let product enter drains. Do not dispose of with domestic refuse.
Contaminated packaging	:	Dispose of in accordance with local regulations.
Waste Code	:	12 01 09 : machining emulsions and solutions free of halogens

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Refer to protective measures listed in sections 7 and 8.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.
Regional or national implementations of GHS may not implement all hazard classes and categories.

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16: Other information

Full text of H-Statements

H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H360FD	:	May damage fertility. May damage the unborn child.
H400	:	Very toxic to aquatic life.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New

Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Other information	:	The information provided is based on our current knowledge and experience and apply to the product as delivered. Regarding the product properties, these are not guaranteed. The delivery of this safety datasheet does not free the recipient of the product from his own responsibility to follow the relevant rules and regulations concerning this product. This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

GB / EN